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PATENT COOPERATION TREATY

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Applicant: Cooper-Standard Automotive Inc.
For: INDENTED TUBE FOR A HEAT EXCHANGER
Attorney Docket: 60158-286

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AMENDMENTS UNDER ARTICLE 34

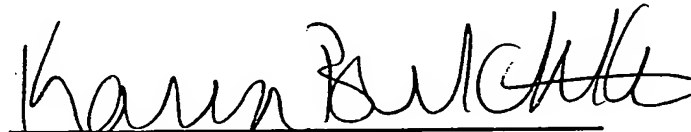
Dear Sir:

Claim 1 has been amended. Claims 2 and 3 correspond to original claims 7 and 5, respectively. Claim 4 corresponds to original claim 9 and has been amended. Claim 5 corresponds to original claims 10. Claims 6 and 7 are new. Claims 8, 9 and 10 correspond to original claims 15, 16 and 18, respectively, and have been amended. Claims 11 and 17 are new. Replacement sheets 6 and 7 replace original sheets 6 and 7.

Consideration is respectfully requested.

Respectfully submitted,

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CLAIMS

1. A method of forming a tube comprising the steps of:
positioning the tube in a first position in a mold;
5 then forming an indentation on the tube with the mold;
then releasing the mold from the tube;
then moving one of the mold and the tube to a second position relative to the
other of the mold and the tube; and
then forming another indentation on the tube with the mold.
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2. The method as recited in claim 1 wherein the step of moving includes translating
the tube relative to the mold.
3. The method as recited in claim 1 wherein the step of moving includes rotating
15 the tube relative to the mold and translating the tube relative to the mold.
4. The method as recited in claim 3 wherein the step of rotating includes rotating
the tube relative to the mold between approximately 5 to 10°.
- 20 5. The method as recited in claim 1 wherein the tube includes an end portion
having a substantially circular cross-section.
6. The method as recited in claim 1 wherein the indentation is formed by crimping
the tube.
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7. The method as recited in claim 1 wherein the indentation is formed by stamping
the tube.
8. A heat exchanger comprising:
30 a plurality of tubes each including a body portion and a plurality of indentations;
a valve that controls a flow of a first fluid into the plurality of tubes; and
a shell portion surrounding the plurality of tubes.

9. The heat exchanger as recited in claim 8 wherein a second fluid flows through the shell, and the first fluid exchanges heat with the second fluid.

10. The heat exchanger as recited in claim 8 wherein the plurality of indentations
5 are substantially parallel to the flow of the first fluid through the plurality of tubes.

11. A method of forming a tube comprising the steps of:
positioning the tube in a first position;
then forming an indentation on the tube with a mold;
10 then moving one of the tube and the mold relative to the other of the tube and the mold to form a groove; and
then releasing the mold from the tube after the step of moving.

12. The method as recited in claim 11 further including the step of repeating the step
15 of forming an indentation.

13. The method as recited in claim 11 wherein the step of moving includes rotating the tube relative to the mold and translating the tube relative to the mold.

20 14. The method as recited in claim 13 wherein the step of rotating includes rotating the tube relative to the mold between approximately 5 to 10°.

15. The method as recited in claim 11 wherein the step of moving includes translating the tube relative to the mold.
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16. The method as recited in claim 11 wherein the tube includes an end portion having a substantially circular cross-section.

17. The method as recited in claim 11 wherein the mold includes a roller that
30 engages the tube, and the step of moving the tube forms a groove on the tube as the roller engages the tube.